

Rodman (W. L.)

A REGIONAL STUDY OF TUMORS

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W. L. RODMAN, M. D.

Demonstrator of Surgery, University of Louisville.

Reprint from the American Practitioner and News.



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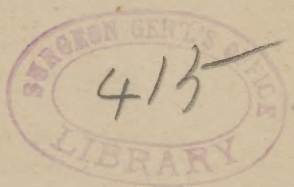
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A REGIONAL STUDY OF TUMORS.*

My subject, "A Regional Study of Tumors," is certainly a practical one, and one which at times is of interest to all physicians and surgeons.

Important as it is, there is not, it is strange to say, a treatise upon the subject in any language. I wrote to all the publishers of this country for such a book, if there was one, and received the same answer from all of them. I have not, after diligent search, been able to find even so much as an article in a medical journal upon the subject.

If writers would give the same attention to all of the important surgical regions as Dr. S. W. Gross gave to one of them—the mammary gland—order would in time soon come out of what is now little more than chaos. This short paper is simply written in the hope that some one worthier than I, feeling the same interest in the subject, will give it proper elaboration. Statistics are yet to be made. If the record-books of all hospitals and college clinics contained a full history of tumors, and the diag-

*Read at the May (1890) meeting of the Kentucky State Medical Society.

nosis in each instance, confirmed by a competent microscopist, it would not be long before we could in nearly all instances determine the nature of the neoplasm by the age of the patient, the situation of the growth, etc., before its removal.

Such knowledge would be a blessing to those surgeons who, while skillful with the knife, are not microscopists, and are oftentimes so situated that the aid of one can not be invoked.

The patient is entitled to a reasonably accurate prognosis—the relations often demand it; and no surgeon at all jealous of his reputation will give one, in the majority of instances, without availing himself of every means of diagnosis at hand. One may blindly predict that a tumor of the scalp is a sebaceous cyst, that one growing from the inner condyle of the femur is a sarcoma, and nearly always he will turn out right. The same would, to a less extent, be true of other regions prolific in morbid growths, if proper attention was given them.

I begin with the

SCALP.

By far the most common tumors of the scalp are the three forms of cystic tumors, viz., (1)

cutaneous sebaceous cysts, (2) congenital dermoid cysts, (3) serous cysts.

1. Of these the first is much the commonest, and is popularly called a "wen." They are single or multiple. Prof. Gross saw a man with more than two hundred. They vary in size from a buckshot to an orange. They are more common in women than in men, 70 out of 107 consecutive cases reported by Bryant being in women. Unquestionably they are hereditary. Sir James Paget says "they are more commonly hereditary than any forms of cancer." They are more common after thirty years of age. The scalp over these tumors is either partially or wholly bald. Three fourths of all sebaceous tumors are on the head and face.

2. Congenital dermoid cysts are sufficiently often met with to be of interest. Its favorite site is about the eyebrow, at the outer angle of the orbit; it is also found over the frontal bone, behind the ear, and over the anterior fontanelle. In the last situation a cyst of this kind has been mistaken for a meningocele cut off from the cranial cavity. They are deeply placed, usually attached to the periosteum, and by prolonged pressure may indent or even perforate the bone. This is especially true of those situated at the outer angle of the orbit.

3. Serous cysts are extremely uncommon. They are, according to Treves, "either (1) congenital, (2) formed from extravasated blood, (3) formed from a meningocele whose connection with the cranial cavity has been cut off." They are unusually small and situated over the occipital region. Billroth saw a cyst of this kind as large as the patient's head.

Vascular Tumors. Next in frequency to the cystic are the various forms of the vascular tumors or nevi. They are by far more common here than in any other situation. According to Haineke arterial angiomas are found only in this region.

Another interesting but rare form of vascular tumor is the venous, which communicates at times by one, again by several openings through the skull with the superior longitudinal sinus. Fortunately, they are extremely rare, and will be found in the middle line over the longitudinal sinus. Surgical interference is out of the question, unless it be to make systematic compression.

Before leaving soft tumors of the scalp the occasional existence of a meningocele or encephalocele is not to be forgotten. The most common situation is at the point where the four centers of ossification of the occipital bone

come together. They also occur at the anterior fontanelle, above the nose, and in the parietal regions.

Solid tumors of the scalp are uncommon. They are lipoma, fibroma, general or circumscribed hypertrophy of the scalp, elephantiasis or, as some call it, pachydermatocele, and sarcoma and carcinoma.

Lipoma, fibroma, and pachydermatocele are all very uncommon. I have never seen an instance of either, nor are there many cases on record.

Sarcoma and carcinoma occur more frequently, but they too must be classed as rare affections. I have witnessed two examples of each. Both of the carcinomas were of the epithelial variety. This is the usual form of cancer. I find one case of scirrhus reported.

The bones of the skull may be the seat of ivory exostoses, ordinary or syphilitic. The former are more likely to occur on the outer and the latter on the inner table.

Sarcomata also grow from the bones, but, as a rule, begin in the pericranium.

PAROTID GLAND.

Tumors of the parotid are not uncommon. Gross gives the record of ninety-five cases col-

lected by Billroth, Bruns, and Weber, the diagnosis in all instances being confirmed by the microscope. Adding to these two cases in my own practice, one of which was an enchondroma larger than a fist, removed four years ago from a man still living in Cloverport, Ky., the other a cyst, removed from a middle-aged man from Knoxville, Tenn., who presented himself at the University clinic, we have 29 enchondromas, 20 fibro-myxo-chondromas, 26 carcinomas, 9 of which were encephaloid, 10 epithelial, and 7 scirrhous, 6 fibromas, 6 cystomas, 4 melanotic adeno-sarcomas, 3 sarcomas, and 3 myxomas.

Taking the 29 pure chondromas, and 20 fibro-myxo-chondromas, and we have 49 or 50.51 per cent of all tumors of this gland of a cartilaginous nature. The cancerous tumors are next in frequency, comprising 26.78 per cent.

Specimens of mixed neoplasms are very frequent in this situation.

The benign tumors, which comprise 67.04 per cent, are movable, grow in early and middle life; the skin over them is not discolored, have little tendency to cause pain, and do not cause paralysis of the facial nerve. The converse is true of the malignant growths.

Sir William Ferguson, whose experience with these tumors has been larger than any other

surgeon, says: "If it were evident that the tumor slid freely over the subjacent textures, I should not hesitate about using the knife, whatever might be the bulk of the disease; . . . but if the tumor seemed fixed, its limits not clearly defined, or an attempt to move it caused pain, I should not readily be induced to use the knife, however small the mass might be."

SUBMAXILLARY GLAND.

Enchondroma, fibroma, adenoma, lymphoma, and cysts are the benign growths most likely to be met with in this gland. Sir James Paget asserts that enchondromas are not so common in this gland as they are in the parotid—others claim that they are more so.

Of malignant neoplasms we find sarcomas, lympho-sarcomas, and carcinomas, the latter being rare and usually of the scirrhus variety.

SUBLINGUAL GLAND.

The only growth which frequently affects this gland is "ranula."

Epithelioma is the only form of malignant disease, and it is infrequent.

Calculous formations are rare. Gross, in his large experience, saw only one case.

Dr. Cheatham sent me a married woman.

about forty-five years of age, from whom I removed a very large calculus found in a ranula. It was removed two years ago, and a part of the cyst excised. No recurrence to date.

AURICLE.

The tumors occurring in this situation are the fibro elastic or keloid, fatty, sebaceous, hematoma auris, nevus, sarcoma, and epithelioma. Of these by far the most common is the first, or fibro-elastic tumor. It grows from the lobule of the ear, varies in size from a pea to a hen's egg, is very hard and dense, and of slow growth. It is most common in negroes, and is undoubtedly, in most instances, due to the irritation of heavy and irritating ear-rings. For this reason it is uncommon in men. Fatty tumor is very rare, though it has been found. The same may be said of sebaceous cysts, and also of sarcoma.

A very interesting tumor is the hematoma. It usually begins in the concha and spreads over the auricle. Dr. Hun finds that it is almost peculiar to the insane. In 24 cases 23 were in insane persons. Nevus is very rare. Epithelioma may occur in elderly persons.

LIPS.

Tumors of the lips are common. The most frequent is the small mucous cyst which is almost peculiar to the lower lip.

Next in frequency are the different forms of vascular tumors, and they are almost entirely limited to the upper lip.

Epithelioma is common enough. It is an interesting fact that this affection is nearly always situated in the lower lip. Of 560 analyzed by Gross, only 20, or 3.5 per cent, appeared in the upper lip.

In 150 of his own cases, Gross only saw it in the upper lip twice. Bryant places the relative frequency of the disease in the two lips as 25 to 1. I have never seen it in the upper lip. Epithelioma is by far more frequent in males than in females, the proportion being 17 to 1. It is rarely seen under forty-five, being pre-eminently an affection of advanced age. The theory so long fashionable, that it is caused by smoking short-stem pipes, is perhaps untenable. The majority of authors are against this opinion.

MAMMARY GLAND.

If tumors in other regions of the body had been studied and classified with the same care

as those of the mammary gland, there would be little left to be desired.

S. W. Gross, who has written the best work in any language upon the subject, has made the simplest, and at the same time the most rational classification of these neoplasms, based as it is upon a sound anatomical and clinical foundation.

Of benign tumors of the mamma we find fibroma, myxoma, adenoma, and cysts, retention, and of new formation. While lipoma and enchondroma both occur in the para-mammary tissue, they do not occur in the gland itself, and will not be considered. Of malignant growths there are sarcomata and carcinomata.

The statistics collected by Gross show that of 649 cases of mammary tumors 530 were cancers, 57 sarcomas, 48 fibromas, 2 adenomas, and 12 cysts. So we have 81.66 per cent cancerous, 8.75 per cent sarcomas, 7.38 per cent fibromas, 0.30 per cent adenomas, and 1.84 per cent cysts, or over 90 per cent malignant, and 9.52 per cent benign.

Age has a most potent influence in determining the nature of a mammary growth. S. W. Gross says: "The non-carcinomatous growths occur, on an average, at the thirty-third year; only 30.37 per cent develop after the age of

forty." They develop during the activity of the gland; "15.55 per cent appear before the twentieth year, and 5.18 per cent before menstruation."

"The carcinomatous tumors develop, on an average, at the forty eighth year; 77.26 per cent appear after the age of forty, and they are never met with before the twentieth year." So that these growths occur with the decline in function or atrophy of the breast.

Years between	Fibroma. Per cent.	Sarcoma. Per cent.	Myxoma. Per cent.	Adenoma. Per cent.	Carcinoma. Per cent.
10 and 20	11 or 22	8 or 13.33	.....	2 or 11.11	.....
20 and 30	18 or 36	10 or 16.16	1 or 14.29	4 or 22.22	18 or 2.80
30 and 40	11 or 22	23 or 38.33	.....	6 or 33.33	128 or 19.93
40 and 50	7 or 14	13 or 21.66	4 or 57.14	5 or 27.77	245 or 38.16
50 and 60	3 or 6	4 or 6.66	2 or 28.57	1 or 5.55	165 or 25.70
60 and 70	.....	2 or 3.33	.....	.....	78 or 12.14
70 and 80	.....	.....	.....	.....	8 or 1.24
Cases.....	50	60	7	18	642

The above tabular statement of 777 cases is copied from S. W. Gross's work on Tumors of Mammary Gland, page 34.

The only tumors we find before the sixteenth year are the fibromas and sarcomas, the former occurring six times as frequently as the latter.

In conclusion, to quote still further from Gross, "Structural perfection of the mamma renders it most obnoxious to fibroma, sarcoma,

and adenoma, while atrophy or decay predisposes it to myxoma and carcinoma."

As to the part of the gland which is invaded by the neoplasm. Carcinomas are usually situated at the upper and outer margin of the gland, and about the nipple. Non-carcinomatous growths are generally situated at the upper and inner margin of the breast, and but rarely grow around the nipple.

AXILLA.

Before enumerating the neoplasms which have their origin in the axilla, it should be borne in mind that abscesses both acute and chronic are frequently situated in this locality, also tuberculosis of the lymphatic glands. Aneurisms are not uncommon, and such surgeons as Syme, Dupuytren, Desault, and Ferraud have mistaken them for neoplasms. The result was fatal in every instance save one. Then again, the subclavian has been ligated for a supposed aneurism, when the real trouble was a pulsating sarcoma.

The tumors met with in this situation are fatty, cystic, sarcomatous, and carcinomatous. The malignant are more common than the benign. Fatty tumors sometimes attain an enormous size: perhaps the largest on record being

reported by Dr. A. H. Scott, of Arkansas. It reached below the ilium, was pyriform in shape, and when removed weighed twenty-one pounds.

Cystic tumors are frequently congenital, contents serous and coagulable. Notwithstanding the abundance of hairs in this situation, sebaceous cysts are almost if not entirely unknown.

Sarcomas originate in the connective tissues and also from the lymphatic glands. At first freely movable they soon become fixed. The superficial veins are prominent—tendency to ulceration is marked.

Gross claims “that carcinoma of the axilla is always the result of secondary involvement in connection with carcinoma of the breast.” Erichsen recognizes the fact that scirrhus cancer may begin as a primary affection under the pectoral muscle or in the axilla.

I myself have seen a well-marked example of a scirrhus tumor in the axilla of a man beyond sixty years of age. The tumor was removed, but reappeared in three months. The patient lived in an adjoining State, and the subsequent history is unknown to me.

In the removal of malignant tumors in this situation the fact is not to be lost sight of that the attachments are deep, and that not infre-

quently the sheaths of the blood-vessels are adherent to the growth.

SHOULDER.

Tumors in the region of the shoulder may be divided into two classes, those beginning in the soft tissues around the joint, and those growing from the humerus, scapula, and clavicle. The former are almost invariably benign, the latter as certainly malignant.

Of the benign tumors growing in the soft tissues around the joint, we most generally find chondromas, fibromas, and lipomas. The former acquire an enormous size, often weighing twenty-five pounds, and, in rare instances, fifty.

Fatty tumors are common. They also may attain considerable volume. They are not so easily enucleated as in other situations, being at times quite adherent to the surrounding tissues. Two years ago I removed a large lipoma from over the shoulder of a middle aged man. It was quite adherent to the surrounding tissues, requiring a tedious dissection for its removal. Cysts and creticle tumors are very rare, the latter, when they occur, are aneurismal or venous.

The one tumor which often springs from the bones of the shoulder is the small, round-celi-

ed or encephaloid sarcoma. It is exceedingly malignant. The points of diagnosis are rapid growth, apparent fluctuation, and prominence of the superficial veins. Of this frightful disease I have seen two instances, both in females. One a widow, twenty-two years of age, who fell upon the ice, striking her shoulder a severe blow. This was the starting-point of the sarcoma, which began in the head of the humerus. A spontaneous fracture of the bone occurred a few weeks before the limb was amputated at the shoulder-joint. This is not uncommon. The second case was in the person of a married woman, about forty-five years of age, whom I saw in consultation with my cousin, Dr. W. B. Rodman. This lady moved away from Frankfort, where she was then living, but I heard from her frequently. She survived less than a year. Enchondroma sometimes grows from the upper end of the humerus, beginning either centrally or subperiosteally. This, in fact, is one of the favorite seats of the chondroma. It is likely to undergo sarcomatous degeneration.

ABDOMINAL WALLS.

Tumors of the abdominal wall are usually of a fatty, fibroid, cystic, or sarcomatous nature.

They may be superficial to or beneath the muscle—rarely between them.

Those superficial to the muscles are, as a rule, fatty. Sometimes these tumors, when situated near the middle line, may communicate by a small opening with the abdominal cavity. The possibility of this should be remembered. The slow and painless growth, lobulation, etc., render the diagnosis sufficiently easy.

In 1862 Nélaton described a fibrous tumor which he had in fifteen instances found growing in the iliac fossa. The tumor was dense and inelastic, usually situated just above Poupart's ligament, and attached to the anterior superior spinous process of the ilium, or thereabouts, by a dense fibrous band. They are beneath the muscles, between the peritoneum and the iliac fascia.

Cystic tumors in this situation are rare. When existing they are deeply placed just external to the peritoneum. They are supposed to develop from the fetal urachus. They contain a serous fluid and attain a large size. They may simulate ascites.

Sarcoma is uncommon. In the few cases where it has been observed it is rather deeply placed, either between the planes of muscles or beneath them. Being malignant in charac-

ter, they frequently form adhesions to the abdominal viscera.

In the removal of all tumors of the abdominal wall, more especially the deeper ones, as small an incision as practicable should be made, the muscles carefully stitched so as to prevent ventral hernia.

BACK.

Tumors of the back are benign and malignant—most usually benign. Fatty and fibrous are more frequent than others. Cystic tumors are rare. The peculiarity of both fatty and fibrous tumors of the back is that they are large and pendulous. The former grow from the superficial connective tissues, the latter from the deeper ones beneath the muscles. A fatty tumor weighing twenty-five pounds was removed from the back by Dover.

Sarcomas are rather uncommon, and when they do occur are apt to grow in the interscapular region.

Cancer is still more uncommon. When it exists it is of the epitheliomatous nature, and may spread over a large extent of surface.

GROIN.

Of tumors liable to occur in this interesting surgical region, the fatty, fibrous, cystic, and

sarcomatous are the most common. Varix of the saphenous vein at its opening into the femoral may also occur. So may aneurisms of different kinds.

The fatty tumor of this situation may begin above in the abdominal wall and descend into the groin. They are usually large and pendulous, and easily enucleated with little hemorrhage. The fibrous tumors are, as a rule, more deeply attached, and consequently difficult of removal. They may be attached to the vessels. There are no less than three different classes of cystic tumors liable to occur in the groin: (1) Retention cysts, as the sebaceous, which are rare. (2) Exudation cysts, as the enlargement of the bursa lying between the anterior surface of the capsule of the hip and the posterior surface of the psoas and iliacus muscles. This is by far more common, and at times undergoes great enlargement. (3) Cysts of new formation, either serous or sanguineous.

It is to be remembered, in connection with the diagnosis of tumors in the groin, that there are other "swellings" which are even more common than the tumors named. Acute and chronic abscesses which point either above or below Poupart's ligament, hydrocele of the

cord, hernia, undescended testicle, aneurisms, tuberculosis of the lymphatic glands, etc.

A cystic or solid tumor situated over the course of the vessels will have an impulse imparted to it, and the tumor may be mistaken for an aneurism. Extreme caution is necessary for the correct diagnosis and removal of growths in this region.

SCROTUM.

Sebaceous tumors may occur, and are usually multiple. They vary in size from a pea to a hickory-nut. Sometimes there are great numbers of them.

Other cystic tumors are very uncommon. As a rule they are small and multiple.

Dermoid cysts containing bone, teeth, cartilage, etc., are congenital.

Lipomas are rare. When present they are usually of small size and feel like a third testicle. Kimball reports a growth of this kind weighing two pounds.

Fibrous tumors are uncommon. They occur after middle life and attain a large size. Gross, the elder, removed one weighing nearly five pounds.

Elephantiasis of the scrotum is uncommon in this country. Tumors of this kind have been

reported by Larrey weighing one hundred and twenty pounds, and by Delpech, one hundred and sixty pounds.

Carcinoma of the scrotum is usually of the epithelial variety. It is so common in chimney-sweeps that it is often called the "chimney sweeper's cancer."

Sarcoma is rare.

TESTICLE.

This organ, like the female breast, is frequently the seat of morbid growths. The tumors commonly found are cystic degeneration, enchondroma, sarcoma, and carcinoma. Myomata, lipomata, and fibromata are reported, but are so rare as to make it unnecessary to consider them in a practical study of the neoplasms of the testis.

Given a tumor of the testicle, the chances are, as in the mamma, that it is malignant. Simple cystic degeneration sometimes, though rarely, occurs. The cysts are multiple and generally of great number, varying in size from a pin's head to a walnut. Contents watery or gelatinous. This is the "hydated testis" of Sir Astley Cooper.

Cystic disease sometimes co-exists with sarcoma, chondroma, and carcinoma.

Enchondroma. The parotid and submaxillary glands are the only structures of the body more often the seat of this tumor than the testicle. It is liable to undergo sarcomatous change. It also co-exists with cystic disease.

Tuberculosis. This affection generally occurs in young subjects with evidences of tuberculosis elsewhere. Rarely is it limited to the testicle. It almost invariably affects the epididymis, and not the testis proper.

Sarcoma. This is the most common of all tumors. It is usually of the small, round-celled variety, the encephaloid sarcoma. It is impossible to diagnosticate this growth from the encephaloid carcinoma without the aid of the microscope. After a study of forty cases, S. W. Gross says that it affects younger subjects, even occurring in very young children, grows more rapidly, attains a greater volume, is more apt to invade the epididymis, more apt to cause enlargement of the inguinal lymphatic glands, but less apt to invade the cord than carcinoma.

Carcinoma. Most authors agree that the only variety of cancer found in the testicle is the encephaloid—the old fungus hematodes. It is most common about forty years of age, and is said never to occur in impubic subjects. It

is invariably unilateral. Bryant and Holmes admit the possibility of scirrhus.

Tumors of the perineum must be extremely rare, as I find no mention of them in the standard works.

The only tumor I have ever met with in this region was a fibroma of many years' duration, in a man, sixty-seven years of age, whom I saw in consultation with Dr. H. M. Pusey. It was the size of an orange, and had grown very slowly. Six months before its removal it had taken on a more rapid growth, and the skin over its surface became discolored. A microscopical examination showed a limited amount of sarcomatous degeneration, the cells being of the small spindle variety. It was removed by Dr. Pusey two years ago, and, so far as I know, has not returned.

PENIS.

This organ is not often the seat of neoplasms. Benign growths, both cystic and solid, may occur, but they are so very rare that they need not be considered.

By far the most common growth is the carcinoma, and some authors claim that the only form of cancer to which the penis is liable is the epithelioma. It begins as a small wart or crack either upon the prepuce or glans penis. It soon

ulcerates, and can be diagnosticated by the offensive sanious discharge, involvement of inguinal glands, pain, age of patient, etc. It is more common in elderly subjects. I have seen one case in a lad of fifteen, though it is uncommon under thirty-five. Erichsen and Corte have seen scirrhus of the penis. It was situated in the sulcus behind the glans.

Sarcoma is extremely infrequent. Dr. W. G. Porter, of Philadelphia, reported a case of sarcoma beginning at the base of the penis of a negro aged forty-four years. This is the only case I find.

NATES.

The tumors of this region are cystic and solid. Cysts are common, and are sometimes congenital. When congenital they may be so large as to seriously retard labor. Puncture has been necessary so as to permit delivery of the child.

Fatty, myxomatous, fibrous, and sarcomatous growths are the solid tumors usually found.

Myxoma is perhaps the most frequent of all. It may assume the type of myxoma-lipomatodes. All of these tumors may begin on the outside of the pelvis and project into it through the great sciatic foramen, or begin on the inside

and pass out. These tumors are deeply placed and their diagnoses before removal difficult.

POPLITEAL SPACE.

Tumors of this region are cystic and solid—more frequently the former.

Cystic tumors of this region are classified as follows:

1. Enlargement of some one of the natural bursæ.
2. Synovial cysts, caused by hernial protrusion of the synovial membrane.
3. Accidental cysts, serous or sanguineous.

The first class is the most common. Enlargement of the bursa situated between the inner head of the gastrocnemius muscle and femur is the largest and most common of these tumors. Next in order of frequency is the one situated between the tendon of the semi-membranosis and its insertion into the tibia. The bursæ on the outside of this space are smaller and less often enlarged.

Of solid tumors in this space we have sarcomas, fibromas, and lipomas. The sarcoma is most frequent. It frequently pulsates, and for this reason the femoral artery has often been tied for the relief of a supposed aneurism. The benign tumors are rare. Fatty tumors here

often assume the form of myxoma-lipomatodes. The frequent occurrence of popliteal aneurisms and deep-seated abscesses in this region should make the surgeon extremely cautious in dealing with any tumor.

Dupuytren, Desault, and others have opened aneurisms in this situation under the impression that they were abscesses. I know of one such mistake necessitating ligation of the femoral artery.

Leaving the soft parts, we turn to the bones of this region.

The lower end of the femur, the condyles, and the upper end of the tibia are frequently the seat of enchondromas and sarcomas. Both of these diseases are more likely to grow from the inner aspect of the joint, the classical site of sarcoma being the internal condyle of the femur.

HANDS AND FINGERS.

Enchondromas, ganglions simple and compound, fibromas, lipomas, exostoses, sarcomas, and carcinomas are met with on the hands and fingers. Enchondroma is by far the most common. They are usually multiple, growing from the thumb and fingers, and producing great deformity.

Fibromas are less common. They, too, are as a rule multiple.

Ganglions are usually situated on the back of the wrist and hand over the extensor tendons. Fatty tumors are extremely rare, and when they do occur are situated deeply in the palm of the hand.

Exostoses are uncommon.

Both forms of malignant disease, sarcoma and carcinoma, are rare. Of the malignant growths epithelioma is the most common.

FOOT AND TOES.

The neoplasms of the foot are the lipoma, fibroma, ganglions, epithelioma, and sarcoma.

Fatty tumors are rare, and when found are usually in the sole of the foot.

Fibromas are also rare and generally situated at the posterior part of the sole, where they interfere very much with walking.

Ganglions are more common, and, as in the hand, are situated over the extensor tendons on the dorsum.

Epithelioma is more common than sarcoma, though both are rare.

LOUISVILLE, KY.

